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Health District COMPASS

your guide to local health information

POWER DOWN... and sleep (It's not optional)

by rhea maze

"I can't turn my mind off."

That's the top complaint Bill Moorcroft, Ph.D., a sleep coach with Northern Colorado Sleep Consultants, hears from people who have trouble sleeping.

Just as we need air, food and water, we need sleep to survive. Though the exact reasons why humans sleep and cycle through its complex phases remains somewhat of a mystery, we know that sleep is crucial.

As we cycle back and forth between REM (rapid eye movement) and non-REM sleep, the brain's glial cells act as janitors, clearing away unnecessary debris. Sleep is important for everything from memory and immune system function to the body's ability to break down sugar and repair tissues—providing an endless list of non-negotiable health benefits.

> *"Humans are the only mammals that willingly delay sleep."*
> ~ National Sleep Foundation

"Sleep is not a waste of time—a lot of people think that," Moorcroft says. "Sleep helps cleanse and consolidate your memory, balances out emotions, and is important for general health and maintenance of the brain. Yet in the western world, most people don't get the amount of sleep they need."

The National Sleep Foundation recommends eight to 10 hours of sleep per night for teens and seven to nine hours for adults. Not getting enough good sleep has been linked to increased traffic accidents and fatalities, cognitive decline, memory loss, and myriad other mental and physical health problems including weight gain, diabetes, cardiovascular stress and depression.

There are approximately 84 known sleep disorders. Of those, insomnia and sleep apnea are two of the most common. "Insomnia can cause anxiety, frustration and anger," Moorcroft says. "You want to be sleeping and you can't." Sleep apnea is the inability to breathe for intervals of time during sleep, which can negatively impact sleep quality and health in numerous ways, including being very hard on the heart.

Other sleep disorders include narcolepsy—which causes overwhelming drowsiness during the day and sudden attacks of sleep, periodic limb movement disorder—where a person's limbs move involuntarily during sleep, and restless legs syndrome—which causes pain or discomfort in the legs at night.

"One of the top complaints in any primary care doctor's office is related to sleep," says Dr. Mark Petrun, medical director of sleep services at University of Colorado Health in northern Colorado.

Common patient grievances include daytime sleepiness, unrestorative sleep or a racing mind. "Our society's 24/7 lifestyle, while not technically a sleep disorder, means that getting the recommended hours of sleep is unfortunately something a lot of us sacrifice," says Cindy Crosby, manager of sleep diagnostic services at UCHealth's sleep lab.

"There's so much input every day," agrees Petrun. "People feel like

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their lives are in high gear, constantly shifting in and out of overdrive, and that can be a contributing factor to sleep problems."

In addition to the pace, structure and stresses of modern life, a recent study from Brigham and Women's Hospital fuels a growing body of evidence that the short-wavelength blue light emitted from electronic device screens significantly impacts sleep.

The bright glow emanating from these screens can mess with our circadian clock or rhythm (the body's natural sleep/wake cycle). It does so by suppressing internal sleep signals such as the production of melatonin, a hormone that plays a prominent role in regulating sleep.

The study linked nighttime use of light-emitting electronic devices such as iPads to feeling less sleepy at bedtime, taking longer to fall asleep, spending less time in REM sleep, and feeling sleepier and taking longer to become alert the next day.

In a recent survey from the National Sleep Foundation, 72 percent of youth age 6 to 17, and 84 percent of their parents, reported having at least one electronic device in their bedroom, such as a tablet, smart phone, computer or T.V. Many reported having multiple devices.

These findings are especially concerning given that teens have a circadian clock that naturally shifts later when they hit puberty. This makes it hard for them to get to sleep before 11 p.m., even without the artificial light of an electronic screen.

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According to the American Academy of Pediatrics, who support later school start times for teens, young people now spend more time with screen-based media than they do in school. And with much of this activity occurring at night, before having to get up early, many teens are experiencing the impacts of poor sleep—on top of having to fight an already delayed circadian clock.

"For some teens, their circadian clock shifts in a very exaggerated way," Moorcroft says. "I've treated teenagers who weren't falling asleep until 5 a.m." Yet with diligent, carefully-supervised behavioral treatments, it is possible to reset a person's circadian clock—even in extreme cases, Moorcroft says.

Ideally, our circadian clock keeps us awake during the day and produces sleep at night. But countless situational and behavioral aspects can get in the way of this complex balancing act, including an overactive mind, charged emotions and bodily aches and pains.

Popping sleeping pills for whatever sleep issue ails you might bring temporary relief but it will not help the problem. "For insomnia, most studies show that behavioral treatments are what's effective long-term," Petrun says. "Pharmacologic treatments like sleeping pills should only be used in the short term or in extremely rare cases."

Most insomnia sufferers don't realize that the worst thing they can do when they can't sleep is to stay in bed. "If you're wide awake at 4 a.m. and you force yourself to remain lying there, even if you're not sleeping, you're potentially making your problem worse," Crosby says. Instead, it's best to get up and do something relaxing for 10 minutes or so before trying to sleep again. This is a tactic included in CBT-I (cognitive behavioral therapy for insomnia), a treatment modality commonly used in sleep medicine.

Older people experiencing sleep issues may make the error of not seeking treatment for what could be a developing sleep disorder because they assume that with age comes poor sleep. People also often confuse the term 'sleepy' with 'tired/fatigued.'

"Sleepiness means you can't keep your eyes open and is almost always a reflection of poor quantity or quality of sleep, except for rare disorders like narcolepsy," Petrun says. "Whereas a multitude of other things can cause tiredness and fatigue such as chronic pain, thyroid function, medications, depression, etc."

The process for diagnosing a potential sleep disorder involves piecing together an in-depth medical history and carefully evaluating all of a patient's symptoms. Sleep patterns and habits vary greatly between individuals and there isn't a one-size-fits-all approach to identifying and addressing them.

Lucky for us all though, sleep research is forging ahead at lightning speed and experts are uncovering more of sleep's secrets all the time. "The changes are so fast-paced in sleep medicine right now that it's constantly evolving," Petrun says.

As a result, sleep medicine professionals are now better equipped than ever before to successfully diagnose and treat all manner of sleep problems and disorders. "People no longer have to accept poor sleep," Moorcroft says. "We can't make sleep perfect for everyone, but we can often make it better."

Clean up your zzz's

Deanna O'Connell, R.D., with the Colorado Wellness Coach, shares her sleep tips:

- Create a relaxing sleeping space, free of clutter. Keep the space cool and quiet and cover your eyes if light distracts you.
- Daily exercise, such as a 20-minute walk at lunch, can do wonders to help your body relax at bedtime.
- Avoid electronic screen time, caffeine and alcohol close to bedtime.
- Allow yourself some quiet time to wind down and process the day. This could include listening to soft music, journaling, reading, pampering yourself or doing a hobby.
- Create a nurturing evening routine—this is helpful for adults as well as children.
- Try deep breathing or listening to a guided relaxation or meditation before bed.

Dim the lights

- **Blue-light blocking eyewear is now widely available and can protect your eyes from the disruptive, short-wavelength blue light emitted from electronic devices.**
- **Other options include free, downloadable software such as the f.lux program, which adapts the light emitted from your electronic device screens to a level that's appropriate for what time of day or night it is.** justgetflux.com

How's your sleep?

- If you suspect you might be suffering from a sleep disorder, start by discussing your symptoms and concerns with your primary care health provider to find out if a referral to a sleep specialist for a thorough sleep evaluation is necessary.
- Beware of apps, fitness trackers and home testing kits that claim to assess your sleep patterns. While these tools may provide you with useful information, such as how much time you actually spend lying in bed, they cannot screen, diagnose or treat sleep problems. A sleep lab is the only way to accurately measure whether a person is asleep, when they're asleep, what stage of sleep they're in and if they have a sleep disorder.
- For more sleep tips, resources and information, visit **sleepfoundation.org**.